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**TRANSMITTAL  
FORM**

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	10/560,258
Filing Date	December 9, 2005
First Named Inventor	Lauper et al.
Art Unit	Not Yet Known
Examiner Name	Not Yet Known
Attorney Docket Number	HRG-PT027 (G 5789pct/us)

**ENCLOSURES (Check all that apply)**

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Fee Transmittal Form<br><input type="checkbox"/> Fee Attached<br><input type="checkbox"/> Amendment/Reply<br><input type="checkbox"/> After Final<br><input type="checkbox"/> Affidavits/declaration(s)<br><input type="checkbox"/> Extension of Time Request<br><input type="checkbox"/> Express Abandonment Request<br><input type="checkbox"/> Information Disclosure Statement<br><br><input type="checkbox"/> Certified Copy of Priority Document(s)<br><input type="checkbox"/> Reply to Missing Parts/ Incomplete Application<br><input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s)<br><input type="checkbox"/> Licensing-related Papers<br><br><input type="checkbox"/> Petition<br><input type="checkbox"/> Petition to Convert to a Provisional Application<br><input type="checkbox"/> Power of Attorney, Revocation<br><input type="checkbox"/> Change of Correspondence Address<br><br><input type="checkbox"/> Terminal Disclaimer<br><br><input type="checkbox"/> Request for Refund<br><br><input type="checkbox"/> CD, Number of CD(s) _____<br><input type="checkbox"/> Landscape Table on CD | <input type="checkbox"/> After Allowance Communication to TC<br><br><input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences<br><br><input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)<br><br><input type="checkbox"/> Proprietary Information<br><br><input type="checkbox"/> Status Letter<br><input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):<br><b>International Preliminary Report on Patentability</b> |
|--|--|---|

Remarks

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name	VOLPE AND KOENIG, P.C.		
Signature			
Printed name	Randolph J. Huis		
Date	4/5/2006	Reg. No.	34,626

**CERTIFICATE OF TRANSMISSION/MAILING**

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

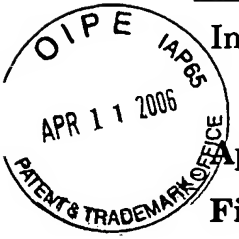
Signature			
Typed or printed name	Randolph J. Huis	Date	4/5/2006

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



In the **PATENT APPLICATION** of:

Lauper et al.

**Application No.:** 10/560,258

**Filed:** December 9, 2005

**For:** CASTING MACHINE

**Group:** Not Yet Known

**Examiner:** Not Yet Known

**Our File:** HRG-PT027  
(G 5789pct/us)

**Date:** April 5, 2006

**COMMUNICATION RE  
INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

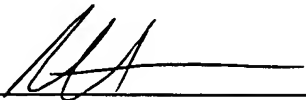
Sir:

Enclosed is the English language translation of the International Preliminary Report on Patentability related to the above-identified 35 U.S.C. §371 National Phase Application based on PCT/CH2004/000352.

Prompt examination of the present application is respectfully requested.

Respectfully submitted,

Lauper et al.

By   
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Registration No. 34,626  
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**PCT**

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

To:

GACHNANG, Hans, Rudolf  
Badstrasse 5  
Postfach 323  
CH-8501 Frauenfeld  
SUISSE

Date of mailing ( <i>day/month/year</i> ) 23 March 2006 (23.03.2006)	
Applicant's or agent's file reference G 5368 pct	<b>IMPORTANT NOTIFICATION</b>
International application No. PCT/CH2004/000352	International filing date ( <i>day/month/year</i> ) 10 June 2004 (10.06.2004)
Applicant KÜNKEL-WAGNER SLS SWISSPOUR AG et al	

→ G5789pct/us

**1. Transmittal of the translation to the applicant.**

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

**2. Transmittal of the copy of the translation to the designated or elected Offices.**

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

**3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).**

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer  Yolaine Cussac
Facsimile No.+41 22 740 14 35	Facsimile No.+41 22 338 70 80

## PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference G 5368 pct	FOR FURTHER ACTION		See item 4 below
International application No. PCT/CH2004/000352	International filing date ( <i>day/month/year</i> ) 10 June 2004 (10.06.2004)	Priority date ( <i>day/month/year</i> ) 14 June 2003 (14.06.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant KUNKEL-WAGNER SLS SWISSPOUR AG			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).

2. This REPORT consists of a total of 9 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Box No. I  | Basis of the report   |
| <input checked="" type="checkbox"/> Box No. II | Priority  |
| <input type="checkbox"/> Box No. III           | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/> Box No. IV            | Lack of unity of invention  |
| <input checked="" type="checkbox"/> Box No. V  | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI            | Certain documents cited   |
| <input type="checkbox"/> Box No. VII           | Certain defects in the international application  |
| <input type="checkbox"/> Box No. VIII          | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 740 14 35	Date of issuance of this report 16 March 2006 (16.03.2006)
	Authorized officer  Yolaine Cussac  Telephone No. +41 22 338 70 80

# PATENT COOPERATION TREATY

Translation

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing  
(day/month/year)

Applicant's or agent's file reference

**G 5368 pct**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

**PCT/CH2004/000352**

International filing date (day/month/year)

**10.06.2004**

Priority date (day/month/year)

**14.06.2003**

International Patent Classification (IPC) or both national classification and IPC

Applicant

**KÜNKEL-WAGNER SLS SWISSPOUR AG**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/CH2004/000352

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language  
\_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/CH2004/000352

Box No. II

Priority

1. ☒ The following document has not yet been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date in the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/CH2004/000352

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	3, 4-6	YES
	Claims	1-2	NO
Inventive step (IS)	Claims	3, 6	YES
	Claims	4, 5	NO
Industrial applicability (IA)	Claims	1-6	YES
	Claims		NO

2. Citations and explanations:

1. This report makes reference to the following documents:

D1: PATENT ABSTRACTS OF JAPAN Vol. 0113, No. 56  
(M-644); 20 November 1987 (1987-11-20)-&; JP  
62 134165 A (SADAMU KINOSHITA; others: 01),  
17 June 1987 (1987-06-17)

D2: CH 559 588 A (LUCAS INDUSTRIES LTD) 14 March  
1975 (1975-03-14)

D3: DE 11 74 704 B (RUHR INTRANS HUBSTAPLER G M  
B) 23 July 1964 (1964-07-23)

2. INDEPENDENT CLAIM 1

2.1 Clarity PCT Article 6

Although the wording that "the foundry ladle is suspended on one side" is not unclear, it is imprecise and can therefore be interpreted broadly since there is no further specification as to how or upon what the ladle is suspended on one side.



WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/CH2004/000352

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

2.2 Novelty PCT Article 33(2)

In view of the broad interpretability of claim 1 explained above, the present application does not satisfy the requirements of PCT Article 33(1) because the subject matter of claim 1 is not novel within the meaning of PCT Article 33(2).

Document D1 discloses (the references between parentheses apply to this document) a casting machine having a foundry ladle, which (rear) is fastened on one side to the cantilever 12, whose height can in turn be adjusted alongside carrier 15. The tilting movement of the foundry ladle is accomplished using rollers 7 along 2 pairs of control cams 9. The entire arrangement, driven by motor M using pinion gears 16, can swivel across carrier 15 (PAJ, figures 1, 4).

D1 thus describes the features of claim 1.

The features of claim 2 necessarily follow from this.

3 INDEPENDENT CLAIM 4

3.1 Clarity PCT Article 6

Claim 4 contains the more specific definition of the one-sided suspension found to be lacking under point 2.1. However, claim 4 does not contain the feature of the foundry ladle being mounted so as to swing out, which the description presents as

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability:  
citations and explanations supporting such statement

essential to the solution of the problems of interest. It therefore does not meet the requirement of PCT Article 6 in conjunction with PCT Rule 6.3(b) that each independent claim must include all the technical features essential to the definition of the invention.

3.2 Novelty PCT Article 33(2)

In all of the cited documents, which describe devices in which the foundry ladle is guided by means of control cams and roll conveyors, the foundry ladle is guided on both sides, i.e. the ladle is arranged between 2 control cams (D1-D3). D4 describes suspending it on one side on the control kinematics, but here the kinematics is a tilting drive mechanism.

The subject matter of claim 4 is therefore novel.

3.3 Inventive Step PCT Article 33(3)

The present application states 2 problems to be solved:

- an optimum tilting movement
- easy exchange of the ladle

The optimum tilting movement is solved by guiding the ladle in control cams as described in D1-D3. Because the control cams are arranged on both sides of the ladle, the problem of easy exchangeability nevertheless still exists here.

D4 mentions both of the problems cited in the

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/CH2004/000352

Box No. V

Reasoned statement under Rule 43bis1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

application:

- The ladle should tilt so that the position of nozzle-spout within the chamber remains unchanged during the tilting movement (column 1, line 10).
- The gooseneck should be easy to raise and lower (column 1, line 20)

Whereas D4 proposes an alternative solution for the first part of the problem (tilting drive mechanism around arbor 7), the second part of the problem is solved in that the load carrier engages the gooseneck with two arbors pointing in the load-bearing direction (column 2, line 34 ff). Here the tilting drive mechanism is located behind the arbors, and the ladle is thus suspended on one side, as is easy to see in figure 2. Because of the nearly identical defined problems, a person skilled in the art would consider building the entire drive kinematics on one side of the ladle in order to permit easy exchange of the ladle as in D4 and would thus arrive at the subject matter of claim 4 without thereby being inventive.

3.4 The features of claim 5 necessarily result from the fitting arrangement of both control cams on one side of the foundry ladle.

3.5 The features of claim 6 involve a further optimization of the drive kinematics which is not described nor rendered obvious by any of the cited documents.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/CH2004/000352

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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4. Further remarks

4.1 A casting machine corresponding to the description, which combines claim 4 with the features of claim 1 (ability to swivel about an axis) and a more precise definition of where the swiveling axis is located (claim 3), is likewise not described or rendered obvious by the prior art.

4.2 Contrary to PCT Rule 5.1(a)(ii), the description does not cite documents D1 and D4 or indicate the relevant prior art disclosed therein.